

WHAT IS CLAIMED IS:

- 1 1. A transmission device for a tube bending machine to transmit a workpiece to
- 2 undergo a bending process, the transmission device comprising:
 - 3 a guiding track assembly adapted to be mounted on top of a base of the tube
 - 4 bending machine and be parallel to a transmission direction of the workpiece;
 - 5 a rack assembly adapted to be mounted on the base;
 - 6 a sliding seat slidable along the guiding assembly and having a first power
 - 7 means with a first motor, and a second power means, both the first power means and the
 - 8 second power means mounted on the sliding seat to drive the sliding seat to move, a
 - 9 moving plate having a through hole defined through the moving plate to receive therein
 - 10 the second power means and a tube clamp mounted on top of the moving plate for
 - 11 clamping the workpiece; and
 - 12 a clutch mounted on a bottom face of the moving plate to alternately* connect to
 - 13 the second power means and having an auxiliary bracket under the moving plate,
 - 14 wherein the first power means has a first motor on top of the moving plate to securely
 - 15 connect to a first transmission gear and the second power means has a second motor
 - 16 securely mounted on the auxiliary bracket to securely connect to a second transmission
 - 17 gear,
 - 18 wherein one end of the workpiece is in contact with the sliding seat and the
 - 19 other end of the workpiece is securely engaged with the tube bending machine such that
 - 20 movement of the sliding seat is controlled by the clutch so that when the second motor is
 - 21 activated to drive the sliding seat, the second transmission gear is securely engaged with
 - 22 the rack assembly and thus the sliding seat is able to move and the workpiece is bent by
 - 23 the movement of the sliding seat.

1 2. The transmission device as claimed in claim 1, wherein the rack assembly has
2 a first rack mated with the first transmission gear and a second rack mated with the
3 second transmission gear.

4 3. The transmission device as claimed in claim 1, wherein the rack assembly has
5 a first rack to mate with the first transmission gear and to alternately mate with the
6 second transmission gear.

7 4. The transmission device as claimed in claim 2, wherein the auxiliary bracket
8 has an auxiliary sliding block mounted on a top of the auxiliary bracket to mate with an
9 auxiliary guiding track on a bottom of the moving plate and be vertical to the second
10 rack.

11 5. The transmission device as claimed in claim 3, wherein the auxiliary bracket
12 has an auxiliary sliding block mounted on a top of the auxiliary bracket to mate with an
13 auxiliary guiding track on a bottom of the moving plate and be vertical to the second
14 rack.